

SIN/EAST search history

(FILE 'HOME' ENTERED AT 15:22:39 ON 01 AUG 2005)

FILE 'AGRICOLA, MEDLINE, CAPLUS, BIOSIS' ENTERED AT 15:22:44 ON 01 AUG 2005

L1	2 S DETOXYIFY (10N) DEINOCOCCUS
L2	2 DUP REM L1 (0 DUPLICATES REMOVED)
L3	1450 S DEINOCOCCUS AND RADIO?
L4	1436 S DEINOCOCCUS (10N) RADIO?
L5	1434 S DEINOCOCCUS (5N) RADIO?
L6	602 S L5 AND RADIATION
L7	337 DUP REM L6 (265 DUPLICATES REMOVED)
L8	325 S L7 AND RADIODURANS
L9	325 DUP REM L8 (0 DUPLICATES REMOVED)
L10	136 S L9 AND PY<1999
L11	0 S L10 AND MER
L12	322 S RADIODURANS (3N) (RADIO?)
L13	0 S L12 AND MER
L14	0 S L13 AND MERCURY
L15	559 S MER (2N) OPERON
L16	9 S L15 AND RADIO?
L17	282 DUP REM L15 (277 DUPLICATES REMOVED)
L18	5 DUP REM L16 (4 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 15:54:46 ON 01 AUG 2005

FILE 'AGRICOLA, MEDLINE, CAPLUS, BIOSIS' ENTERED AT 15:55:15 ON 01 AUG 2005

L19	38 S MER AND BIOREMEDIATION
L20	24 DUP REM L19 (14 DUPLICATES REMOVED)
L21	14 S L20 AND MERCURY

FILE 'STNGUIDE' ENTERED AT 15:56:50 ON 01 AUG 2005

(FILE 'HOME' ENTERED AT 13:50:18 ON 09 AUG 2005)

FILE 'AGRICOLA, MEDLINE, CAPLUS, BIOSIS' ENTERED AT 13:50:26 ON 09 AUG 2005

L1	38 S BIOREMEDIATION AND DEINOCOCCUS
L2	27 DUP REM L1 (11 DUPLICATES REMOVED)
L3	4 S L2 AND (MER OR MERCURY)
L4	322 S BIOREMEDIATION AND MERCURY
L5	255 DUP REM L4 (67 DUPLICATES REMOVED)
L6	66 S L5 AND PY<1998
L7	118 S L5 AND HEAVY
L8	27 S L6 AND HEAVY

L8 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:455498 CAPLUS
 DN 127:99066
 TI Demonstration of an innovative **heavy** metal and radionuclide
bioremediation process
 AU Gonzalez, Adrian; Graves, Duane; Kearney, Theresa; Holroyd, Chris; Eccles,
 Harry
 CS IT Corporation, Knoxville, TN, USA
 SO In Situ and On-Site Bioremediation, Papers from the International In Situ
 and On-Site Bioremediation Symposium, 4th, New Orleans, Apr. 28-May 1,
 1997 (1997), Volume 3, 393-397 Publisher: Battelle Press,
 Columbus, Ohio.
 CODEN: 64SMAQ
 DT Conference
 LA English
 AB **Heavy** metal pollution has historically been considered outside
 the realm of environmental issues suitable for treatment by biol.
 processes. In recent years, growing interest in metals
bioremediation has resulted in a few techniques that minimize the
 risk of exposure to metal pollutants by immobilizing the metal or making
 it insol. Other techniques have used either living or dead biomass to
 concentrate metals from soil or water. An innovative 2-step biol. treatment
 process is being commercialized that efficiently removes metals from soil
 and then concs. the solubilized metals. **Bioremediation** of
heavy metal polluted soil was examined as a function of phys. soil
 characteristics; pollutant type; and concentration, inorg. soil chemical, and
 soil microbiol. The rate and effectiveness of the technol. with a specific
 polluted soil was examined The technol. is particularly attractive for
 treating radioactive and mixed waste.

L8 ANSWER 18 OF 27 .CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:579204 CAPLUS
DN 119:179204
TI Bacterial **heavy** metal detoxification and resistance systems
AU Silver, Simon
CS Univ. Illinois, Chicago, IL, 60680, USA
SO Biotechnol. Environ. Sci. [Proc. Int. Conf.] (1992), 109-29.
Editor(s): Mongkolsuk, Skorn; Lovett, Paul S.; Trempy, J. E. Publisher:
Plenum, New York, N. Y.
CODEN: 59EQAQ
DT Conference; General Review
LA English
AB A review with 89 refs. Bacterial plasmids contain genetic determinants for resistance systems for Hg²⁺ (and organomercurials), Cd²⁺, AsO₂⁻, AsO₄³⁻, CrO₄²⁻, TeO₃²⁻, Cu²⁺, Ag⁺, Co²⁺, Pb²⁺, and other metals of environmental concern. In some cases, there is the potential for using genetically engineered microbes for bio-remediation. Recombinant DNA anal. has been applied to **mercury**, cadmium, zinc, cobalt, arsenic, chromate, tellurium and copper resistance systems. The eight **mercury** resistance systems that have been sequenced all contain the gene for mercuric reductase, the enzyme that converts toxic Hg²⁺ ions to less toxic volatile metallic Hg⁰. Four of these systems also determine the enzyme organomercurial lyase, which cuts the Hg-C bond and thus detoxifies methylmercury and phenylmercury. Two sequenced Cd²⁺ resistance determinants govern cellular efflux of Cd²⁺ assuring a low level of intracellular Cd²⁺; not an obvious candidate for **bioremediation**. Cadmium accumulation by bacterial metallothionein or phytochelatin is a potentially useful process, but only preliminary reports have appeared on bacteria producing polythiol polypeptides. For arsenic resistance, a unique efflux ATPase maintains low intracellular As levels. A bacterial AsO₂⁻ oxidase has been reported, with the potential of converting more toxic As(III) into less toxic As(V), but this system has not been studied in recent years. For chromate, resistance results from reduced cellular uptake. However, both soluble and membrane-bound Cr(V) reductase bacterial activities convert more toxic Cr(VI) to less toxic Cr(III) in different bacteria.

L8 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:79950 CAPLUS
DN 116:79950
TI Bacterial **heavy** metal resistance systems and possibility of
bioremediation
AU Silver, Simon
CS Coll. Med., Univ. Illinois, Chicago, IL, 60680, USA
SO Biotechnol.: Bridging Res. Appl., Proc. U.S.-Isr. Res. Conf. Adv. Appl.
Biotechnol. (1991), Meeting Date 1990, 265-87. Editor(s):
Kamely, Daphne; Chakrabarty, Ananda M.; Kornguth, Steven E. Publisher:
Kluwer, Boston, Mass.
CODEN: 57MWA2
DT Conference; General Review
LA English
AB A review with 101 refs. with emphasis on the mol. biol. of bacterial
resistances to **mercury**, arsenic, and chromate.